ANNEX F

Glossary (Abbreviations and Definitions)

1. Abbreviations:

ADR
automated dosimetry report

ADR (For Germany)
European Agreement concerning the international carriage of dangerous goods by road (ADR) and protocol of signature

AIRDC
Army Ionizing Radiation Dosimetry Center

ALARA
as low as is reasonably achievable

Bkd
Background

Bq
Becquerel

CAD
chemical agent detector (M43A1)

CAM
chemical agent monitor

CFR
Code of Federal Regulations

dpm
disintegrations per minute

dps
disintegrations per second

eV
electron volt

Gy
Gray

kBq
kilobecquerel

mCi
millicurie

mrad
millirad

mSv
millisievert

RADIAC
radiation detection, indication, and computation

RAM
radioactive material

RATTS
Radioactive Test and Tracking System

RCO
radiation control officer

RSO
radiation safety officer

SI
Systemé Internationale (International System)

Sv
Sievert

UIT
Unique Item Tracking

2. Definitions:

Absorbed dose
The energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the rad and the gray (Gy).

ALARA
Acronym for "as low as reasonably achievable". Interpretation being to make every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical and consistent with the purpose for which the licensed activity has undertaken. Taken into account is the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations in relation to utilization of nuclear energy and/or licensed radioactive materials.

Alpha Particle
A positively charged particle of matter emitted by the nucleous of a radioactive atom. Radioactive atoms with large atomic weight and very little penetrating ability.

Background radiation
Radiation from cosmic sources; naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation. Background radiation does not include radiation from source, by-product, or special nuclear materials that the NRC regulates or from NARM that the Army regulates.

Becquerel (Bq)
The SI unit of radioactivity equivalent to one nuclear transformation per second.

Beta Particle
A negatively charged particle of matter emitted from the nucleus of a radioactive atom, having mass and charge equal to an electron. They travel further than alpha particles and have an intermediate penetrating ability.

Curie (Ci)
A unit of radioactivity equal to 37 billion becquerels.

Dose equivalent
The product of absorbed dose in tissue, quality factor and all other necessary modifying factors at the location of interest in tissue. The units of dose equivalent are the rem and sievert (Sv).

Gamma Ray
A type of radiant energy emitted from the nucleus of radioactive atoms that can cause ionization of matter. This type of radiation can travel a great distance and has a very high penetrating ability.

Gray (Gy)
The SI unit of absorbed dose. One gray is equal to an absorbed dose of 1 joule/kilogram (100 rads).

High radiation area
An area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 mSv) in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.

Ionization
Separation of a normally electrically neutral atom or molecule into electrically charged components.

Ionizing radiation
Charged subatomic particles and ionized atoms with kinetic energies greater than 12.4 eV, electromagnetic radiation with photon energies greater than 12.4 eV, and all free neutrons and other un-charged subatomic particles (except neutrinos and antineutrinos).

Kilo- (k)
An SI unit prefix indicating a factor of 1000.

Low-level radioactive waste (LLRW)
See Radioactive waste, low-level.

Micro-(u)
An SI unit prefix indicating a factor of one one-millionth (10-6)

Milli- (m)
An SI unit prefix indicating a factor of one one-thousandth (0.001).

Rad
A unit of absorbed dose. One rad is equal to an absorbed dose of 0.01 joule/kilogram (0.01 gray).

Radiation area
An area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.005 rem (0.05 mSv) in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.

Radiation Control Officer
The person that the commander designates, in writing, as the executive agent for the command's radioactive commodities under Unique Item Tracking (UIT) and/or Radiation Testing and Tracking System (RATTS).

Radiation Protection Program (RPP)
A program to implement the objective of radiation safety and protection.

a. The Army's radiation protection program includes all aspects of:

(1) Measurement and evaluation of radiation and radioactive material pertaining to protection of personnel and the environment.

(2) Army compliance with Federal and DOD radiation safety regulations.

(3) The Army's radiation dosimetry, radiation bioassay, radioactive waste disposal, radiation safety training, and radiation instrument TMDE and calibration programs.

b. A command's radiation protection program includes all aspects of:

(1) Measurement and evaluation of radiation and radioactive material within the command as they pertain to protection of personnel and the environment.

(2) Compliance with Federal, DOD, and Army radiation safety regulations.

Radiation Safety Officer
The person that the commander designates in writing as the executive agent for the command's radiation safety program. Same as *Radiation Protection Officer (RPO)*

Radioactive commodity
An item of Government property made up in whole or in part of radioactive material. A national stock number (NSN) or part number is assigned to commodities containing radioactive material greater than 0.01 Ci.

Radioactive waste, low-level (LLRW)
Material the NRC classifies as low-level radioactive waste, waste not classified as high-level radioactive waste (spent nuclear fuel), as transuranic waste, or as uranium or thorium tailings and waste; material acceptable for burial in a land disposal facility.

Rem
A unit of any of the quantities expressed as dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor (1 rem = 0.01 sievert).

Sievert (Sv)
The SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sieverts is equal to the absorbed dose in grays multiplied by the quality factor (1 Sv = 100 rem).

Source material
Any form of radioactive material. Uranium or thorium, or any combination thereof, in any physical or chemical form or ores that contain by weight one-twentieth of one percent (0.05%) or more of uranium, thorium, or any combination thereof. Source material does not include special nuclear material.

Thermoluminescent Dosimetry: (*TLD*) A device with a thermoluminescent material insert worn by personnel exposed to ionizing radiation to measure the dosage received. This device is used to measure the individual dosage therefore it is often referred to as personal dosimetry.